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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,728	06/14/2006	Alberto Osio Sancho	O0327.70000US00	4669

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EXAMINER	
PALENIK, JEFFREY T	
ART UNIT	PAPER NUMBER
1615	
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11/23/2011	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/582,728	OSIO SANCHO, ALBERTO	
	Examiner	Art Unit	
	Jeffrey T. Palenik	1615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 July 2011*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5)☒ Claim(s) *1-27,39,41-46 and 50-53* is/are pending in the application.

5a) Of the above claim(s) *4-7,15,17,25-27,39,41-46 and 50* is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1-3, 8-14, 16, 18-24 and 51-53* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

12)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The mailing of this replacement Office Action supersedes and vacates the previously submitted Office Action, mailed 2 August 2011.

STATUS OF THE APPLICATION

Receipt is acknowledged of Applicants' Request for Continued Examination (RCE), filed 15 July 2011, in the matter of Application N° 10/582,728. The Examiner further acknowledges the following:

Claims 1-27, 39, 41-46 and 50-53 are pending, where claims 4-7, 15, 17, 25-27, 39, 41-46 and 50 remain withdrawn from consideration.

No claims have been added, amended or cancelled since the entered amendment of 25 May 2011.

Thus, claims 1-3, 8-14, 16, 18-24 and 51-53 continue to represent all claims currently under consideration.

INFORMATION DISCLOSURE STATEMENT

No new Information Disclosure Statements (IDS) have been filed for consideration.

WITHDRAWN REJECTION

Rejection under 35 USC 112

Applicant's amendments to claim 12, entered on the record and as indicated on the Advisory Action of 22 June 2011, are sufficient in overcoming the indefiniteness rejection made under the second paragraph of 35 USC 112. The rejection is thus **withdrawn**.

MAINTAINED REJECTION

The following rejections are maintained from the previous Office Correspondence dated 25 February 2011 since the art which was previously cited continues to read on the previously amended cited limitations.

CLAIM REJECTIONS - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 8, 9, 11, 12, 18, 22 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Harris *et al.* (EP 0 608 341).

Harris ('341) discloses methods for accelerated corneal reshaping involving the release of enzymes, particularly hyaluronidase, or other agent which facilitate reshaping of the cornea to reduce or eliminate refractive errors of the eye (page 2, lines 3-5). (This reads on Applicant's method for treating ophthalmologic conditions). The methods employ a contact lens for delivering agents to the eye and utilize hyaluronidase for the manufacture of a medicament for the treatment of refractive errors of the eye. An agent that softens the cornea of a mammalian eye for use in correcting refractive errors is also disclosed. The agent can be provided in combination with a rigid contact lens. The medicament may further comprise an anesthetic (p. 3, lines 13-38). The medicaments permit a method of reshaping a cornea from a first configuration to a second desired configuration in order to correct refractive errors in an eye (p. 3, line 39 – p.

4, line 5). The lens is removed when the cornea is capable of maintaining the desired second configuration without the support of the lens (p. 5, lines 8-9). The corneal agent(s) such as enzymes and enzyme activators can be administered in the form of eye drops (p. 4, lines 6-21). Where the corneal softening agent used is hyaluronidase, the inhibitor can be a hyaluronidase inhibitor such as cysteine and EDTA. Collagenase is also disclosed (p. 4, lines 34-42). The primary enzyme used to soften a cornea is hyaluronidase (p. 6, line 32).

These teachings read on and meet the limitations of instant claims 1-3, 8, 9, 11, 12, 18, 22 and 23. Hence, the instant claims are anticipated by Harris.

RESPONSE TO ARGUMENTS

Applicant's arguments with regard to the rejection of claims 1-3, 8, 9, 11, 12, 18, 22 and 23 under 35 USC 102(b) as being anticipated by Harris et al., have been fully considered, but are not persuasive.

Applicant's remarks filed on 24 November 2010 state that the Examiner acknowledges that Harris does not teach the use of a polymer or a medicament for treating presbyopia.

The Examiner agrees with these arguments and the rejection is withdrawn over those claims.

Applicant argues further that the reference provides only a single instance in which collagenase is disclosed and that "[i]t is clear from the Applicant's specification that the term "collagenase" as claimed does not encompass these two enzymes (page 24, lines 24-31 to page 25, lines 1-2 of the Application as originally filed).

The Examiner respectfully disagrees with this remark as well as Applicant's allegation that Harris does not teach the combination of hyaluronidase and collagenase. Review of Applicant's specification reveals that contrary to above assertion, Applicant's definition of collagenase does in fact include the matrix metalloproteinase enzymes. On further consideration of the reference, the Examiner finds that the eye drops used by Harris contain liposomes which contain hyaluronidase ¶[0013]-[0014] as well as the corneal softening agents (e.g., collagenase) ¶[0022].

Thus, for these reasons, Applicants' arguments are found unpersuasive. The above rejection is hereby **maintained**.

CLAIM REJECTIONS - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-3, 8-14, 16, 18-24 and 51-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harris *et al.* (EP 0 608 341) in view of Marmo *et al.* (U.S. Pre-Grant Publication N° 2005/0080484) and further in view of Karageozian *et al.* (USPN 6,610,292).

Harris ('341) teaches methods for accelerated corneal reshaping involving the release of enzymes, particularly hyaluronidase, or other agent which facilitate reshaping of the cornea to reduce or eliminate refractive errors of the eye (page 2, lines 3-5). (This reads on Applicant's method for treating ophthalmologic conditions). The methods employ a contact lens for delivering agents to the eye and utilize hyaluronidase for the manufacture of a medicament for the treatment of refractive errors of the eye. An agent that softens the cornea of a mammalian eye for use in correcting refractive errors is also disclosed. The agent can be provided in combination with a rigid contact lens. The medicament may further comprise an anesthetic (p. 3, lines 13-38). The medicaments permit a method of reshaping a cornea from a first configuration to a second desired configuration in order to correct refractive errors in an eye (p. 3, line 39 – p. 4, line 5). The lens is removed when the cornea is capable of maintaining the desired second configuration without the support of the lens (p. 5, lines 8-9). The corneal agent(s) such as enzymes and enzyme activators can be administered in the form of eye drops (p. 4, lines 6-21). Where the corneal softening agent used is hyaluronidase, the inhibitor can be a hyaluronidase inhibitor such as cysteine and EDTA. Collagenase is also disclosed (p. 4, lines 34-42). The primary enzyme used to soften a cornea is hyaluronidase (p. 6, line 32).

Harris does not teach the polymer of claim 14 (i.e., cellulose) and the ophthalmologic condition to be presbyopia of claim 24.

Marmo ('484) teaches methods and devices for improving vision comprising a corrective ocular device, such as a corneal appliance that is placed over an eye and has a lens body (see Abstract); (p. 1, ¶s 0003, 0009). The lens may be structured to correct visual deficiencies including myopia, hyperopia, astigmatism and presbyopia (p. 4, ¶ 0065). The lens includes a gel having at least one water soluble or water swellable polymeric material, for example at least one cellulosic component (i.e., hydroxymethyl cellulose and the like) and/or one or more other water soluble or water swellable polymeric materials (p. 10, ¶s 0108-0109); (p. 11 ¶ 0115).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to treat ophthalmologic conditions such as presbyopia and to incorporate the cellulosic polymeric materials as taught by Marmo within the methods of Harris. One would do so with a reasonable expectation of success because Marmo teaches methods to correct visual deficiencies, including presbyopia, which comprises providing a corrective ocular device, such as a corneal lens, whereby the lens includes suitable polymeric materials, such as cellulosic components (i.e., hydroxymethyl cellulose). The expected result would be an enhanced method for improving vision disorders and conditions.

With regards to the duration that the correction of the ophthalmologic condition lasts, as in claims 19-21, the references are silent as to this aspect. However, it would be reasonably expected that the duration of treatment that results from correction would last for an extended period of time, in view of the fact that the prior art of record teaches the same methods and utilizes the same techniques as employed by the Applicant. The prior art clearly recognizes and teaches application of enzymes to contact lens to effectively treat ocular conditions (i.e., presbyopia) and thus employs treatment methods as claimed. Hence, the duration that the

correction of the ophthalmologic condition lasts would reasonably be expected to be for an extended period of time (i.e., 1 year).

Harris and Marmo do not teach the hyaluronidase and collagenase.

Karageozian ('292) teaches a method for treating ophthalmic disorders of the mammalian eye using hyaluronidase (see column 4, lines 17-50, col. 5, lines 38-46 and Abstract). Karageozian teaches that the use of hyaluronidase as well as alternative enzymes are contemplated in the invention. Such enzymes include collagenases that can be used in the ocular treatment methods of Karageozian (col. 17, lines 29-40). The enzymes of the invention may be administered by suitable routes of administration (e.g., topically). See column 6, lines 43-50. While the combination of both hyaluronidase and collagenase is not explicitly taught, the reference does teach that one of skill in the art would select an appropriate enzyme and its dosage to practice the methods of the invention. In addition, the preparation provides for optimal therapeutic effects without causing ocular toxicity (column 17, lines 41-51).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ enzymes such as hyaluronidase or collagenase (or alternatively, combinations thereof) in the treatment of ophthalmologic conditions as taught by Karageozian within the methods of Harris. One would do so with a reasonable expectation of success because Karageozian teaches methods for treating ophthalmic disorders, which comprises the use of hyaluronidase and alternative enzymes (collagenase) which are suitable for use in that they bring about optimal therapeutic effects without causing ocular toxicity (column 4, lines 17-21). The expected result would be an enhanced method for improving vision disorders and conditions.

This rejection is maintained and applied to previously added claims 51-53. Harris, as noted above, teaches methods for accelerated corneal reshaping involving the release of enzymes, particularly hyaluronidase, or other agent which facilitate reshaping of the cornea to reduce or eliminate refractive errors of the eye (page 2, lines 3-5). The method of administration includes the use of rigid contact lenses (as shown in Figs. 1-2), which are made from known fluoro silicone acrylate lens materials, which are gas permeable. See page 10, paragraph [0066]. Thus, this teaching meets the limitation of new claim 51. Harris teaches that their medicament is in the form of eye drops (see claim 2, page 17 of Harris). While Harris does not teach a "gel", note that the secondary reference of Marmo discloses that their lens includes a gel having at least one water soluble or water swellable polymeric material, for example at least one cellulosic component (i.e., hydroxymethyl cellulose and the like) and/or one or more other water soluble or water swellable polymeric materials (p. 10, ¶s 0108-0109); (p. 11 ¶ 0115) and thus meets new claim 52. With respect to new claim 53, the limitations therein are met by the combination teachings of Harris, Marmo and Karageozian, which recognize and teach treatment methods for presbyopia (see Marmo p. 4, ¶ 0065) and teach application of various enzymes including hyaluronidase and collagenase (see Harris and Karageozian). Thus, given the teachings of the combined references, the instant invention would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

RESPONSE TO ARGUMENTS

Applicant's remarks with regard to the rejection of claims 1-3, 8-14, 16, 18-24 and 51-53 under 35 USC 103(a) as being unpatentable over the combined teachings of Harris et al., Marmo et al. and Karageozian et al. have been fully considered but they are not persuasive.

As an initial matter, in response to Applicant's argument that the Examiner has combined an excessive number of references, reliance on a large number of references in a rejection does not, without more, weigh against the obviousness of the claimed invention. See *In re Gorman*, 933 F.2d 982, 18 USPQ2d 1885 (Fed. Cir. 1991).

Secondly, in response to Applicant's argument that the Examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Next, Applicant's Rule 132 Declaration filed with the response has been both entered and fully considered. However, the Examiner respectfully fails to see how it weighs against the merits of the rejection of record. That is, while it clearly discusses Applicant's product as a "game-changing breakthrough" and "non-invasive" treatment and certain merits it may have, it fails to show how the instantly claimed method is non-obvious over the art of record and more importantly, how it is an improved "non-invasive" method. As such, the press-release provided is considered by the Examiner as **unpersuasive**.

Lastly, regarding the rejection, Applicant alleges that the claims, as amended, are sufficient in overcoming the art of record. It also appears that there is further confusion on the record concerning teachings of combinations of hyaluronidase and collagenase in the eye-drop formulations.

In response, the Examiner respectfully disagrees with Applicant's position and maintains the rejection. Addressing the second remark first, the Examiner notes that the teachings of Harris do, in fact, expressly disclose eye-drop formulations which contain both hyaluronidase ¶¶[0013]-[0014] and collagenase compounds ¶[0022]. Collagenases, by definition are enzymes which break down collagen. This is well-known in the art and is acknowledged by Applicant in the instant disclosure. Further, Applicant's instant disclosure defines collagenases as including such compounds as metalloproteinase-1, for example. This compound is clearly disclosed in ¶[0022] of Harris as an additional corneal softening agent which may also be delivered in eye-drop form. Thus, the combination of both hyaluronidase and collagenase in eye-drop form is clearly taught and suggested by the reference, alone or in combination with the remaining references.

Applicant's remarks directed to the amendments claiming a "non-invasive" method are unpersuasive in light of the art as well as his own admission on the record. Specifically, Harris, for example, is directed to the application of a contact lens in combination with an eye-drop formulation which arguably contains both hyaluronidase and collagenase for the purposes of treating (e.g., reducing or eliminating) refractive errors in the eyes ¶[0001]. Applicant's amendment is defining the non-invasive method as the application of a contact lens and eye-drops just as is taught in the art. Applicant, in support of his amendments states that "[i]t is

generally understood from the present Application that "non-invasive" excludes methods which require surgery". The Examiner agrees with this statement and maintains, for example, that Harris *does not require surgery* [emphasis added]. Rather, ¶[0121] discusses surgical corrections as reasons for employing the methods of Harris as opposed to methods for carrying out the correction. Applicant further discusses that the Harris reference directs the ordinarily skilled artisan to inject the formulation directly into the eye. However, the Examiner maintains the lens/eye-drop method is the preferred method which is taught as the reference expressly acknowledges that such injections would be unpleasant to a subject ¶[0061]. As such, it is the continued position of the Examiner that, under the guidance of Harris, the ordinarily skilled artisan would have been well-motivated to devise and arrive at the instantly claimed method, absent a clear showing of evidence to the contrary.

For these reasons, Applicants' arguments are found unpersuasive. Said rejection is therefore **maintained**.

All claims have been rejected; no claims are allowed.

CORRESPONDENCE

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey T. Palenik whose telephone number is (571) 270-1966. The examiner can normally be reached on 7:30 am - 5:00 pm; M-F (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert A. Wax can be reached on (571) 272-0623. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeffrey T. Palenik/
Examiner, Art Unit 1615

/S. TRAN/

Primary Examiner, Art Unit 1615